

FOSSIL COLLECTING REPORT

July 2012

Daniel A. Woehr and Friends and Family

July 1, 2012: Impromptu Minutes in the Walnut Formation

Ms. Brett and I opted for some swimming on a 100F Sunday afternoon, then with time to spare afterward, she asked me if there were any quick hit fossil sites around. It's my duty to have sites in queue for just this sort of situation! And so we descended upon a small exposure of Walnut Formation (105 MYA), not very prominently exposed in South Texas. We were without tools or gear of any kind, even proper footwear...flip flops generally don't navigate gravelly slopes notably well.

I gave Ms. Brett the portion of the exposure I have historically found to be most rich in echinoids, and soon she called out a nice *Coenholectypus planatus* echinoid. We each followed up with a handful of spatangoid echinoids *Heteraster texanus*, some bivalves and gastropods.



FIG 1: Ms. Brett wandering through the Walnut Formation (Site 455)



FIGS 2-6: Walnut Formation ammonite *Engonoceras* sp. this and next 4 pages (Site 455)











FIG 7: Walnut Formation fish vertebra (Site 455)

Then things got quite interesting....the edge of "something" was poking out of a nodule, and it turned out to be a nickel sized fish vertebra, rare in these parts. I followed up with a cracked but complete *Engonoceras* ammonite, the first one I've ever seen complete in the Walnut of South Texas. Back to the lack of tools, I stood on the slope in my sandals and beat this thing out with a tire iron as chisel using a piece of overlying Fort Terrett Limestone as an improvised hammerstone. These were landmark finds for this site.

In 30 minutes we were on our way...

July 12, 2012: Sweltering Summer Lunch Hour Hunt

I was out and about on my lunch hour with little to do, so I opted to put down a sandwich then use the last half hour to peruse a little Eagle Ford exposure (90MYA) that I've looked at every now and then over the years with mixed results. Hard rains this week were a boon to collecting, making this one of my more productive visits.

As always in local Eagle Ford outcrops, I tend to focus on the harder layers of shell hash amongst the bedded soft marls, ideally in bright sunlight that produces strong reflections off of shark tooth enamel. It's a good thing this works for small teeth too, as that little beacon of glare drew my eyes to some fine little teeth several times.



FIGS 8-9: Eagle Ford Group shark teeth *Cretoxyrhina mantelli* (this and next page) (Site 103)





FIG 10: Unidentified Eagle Ford Group shark tooth...good root, broken enamel cusp (Site 103)



FIG 11: Eagle Ford Group shark teeth *Squalicorax falcatus*(Site 103)



FIGS 12-13: Eagle Ford Group fish vertebra this page, medial limb bone(?) next page (Site 103)



Humid 100F climates usually don't bother me too much, unless I have to go back to work in the same clothes, so I moved along quickly, but not before picking up 6-8 teeth comprising a suite of *Squalicorax falcatus*, *Cretoxyrhina mantelli* along with a few *Enchodus* fish teeth and 2-3 small shark and fish vertebrae. Generally tiny fossils, but some quite well preserved. Not bad for a work day...my coworkers got a kick out of my lunch hour story as well.

July 14, 2012: Yakkin' with The Boy

Weston and I opted for an exploratory kayaking mission in the Pleistocene Beaumont Clay to see what we might encounter in the way of collectibles. Our paddle started off easy enough, then shallow water and thick grass made the paddling 3-4 times as hard as it was supposed to be. Then the rain came, but we were prepared with big hats and rain jackets. Bolts dropped in the distance and thunderclaps caught our attention, but not so much to distract our attention from the Beaumont clay and sand at our feet.

Weston spotted a couple pieces of worked flint not quite distinct enough to hang onto while I wrested one Pleistocene bone from the clutches of the clay. We also spotted what looked like turtle hatch sites along the banks...leathery, deflated eggshells in front of small dug out holes in the mud and sand.



FIGS 14-15: Unidentified Pleistocene distal mammal humerus this page, young Weston sportin' his new metal detector next page (Site 604)



That was about it for finds for the day, but we took the time to scout some new areas then do a little metal detecting for the first time with Weston's new Garrett 250, which blows away the metal detector I had 20 years ago. In between sites he got a hold of my iPhone and I had to listen to all manner of silly songs for way too long, in some cases the same song over and over. Good times!

Weston commented that our outing was "kinda fun", and I thought so too, and with a belly full of good food we made our way home around 10 p.m. and slept till noon the next day....

July 21, 2012: Exploratory Push through North Texas

I enjoy exploring for new fossil sites on a constant basis, but what you don't see in my reports are the sites that didn't pan out, which actually constitutes 75% of the time spent exploring. I had a good feeling about this trip however, with remote access to the sites probably keeping them off the radar of all but the most serious collectors. Such turned out to be the case.

My good friend Brian Evans picked me up at work Friday night and we spent our final waking hours closing the gap between us and North Texas, where the Washita Group was well exposed in the various waterways that incise the topography. We arrived at our first canoe put-in around 11:30, and not to waste a moment, we struck out with flashlights to see what the Duck Creek Formation (102 MYA) might hold for us at this very spot. While Brian chiseled at an eroding *Mortoniceras* ammonite, it exploded to reveal a second perfect one underneath, which he victoriously brandished overhead, a harbinger of things to come in the next few hours.



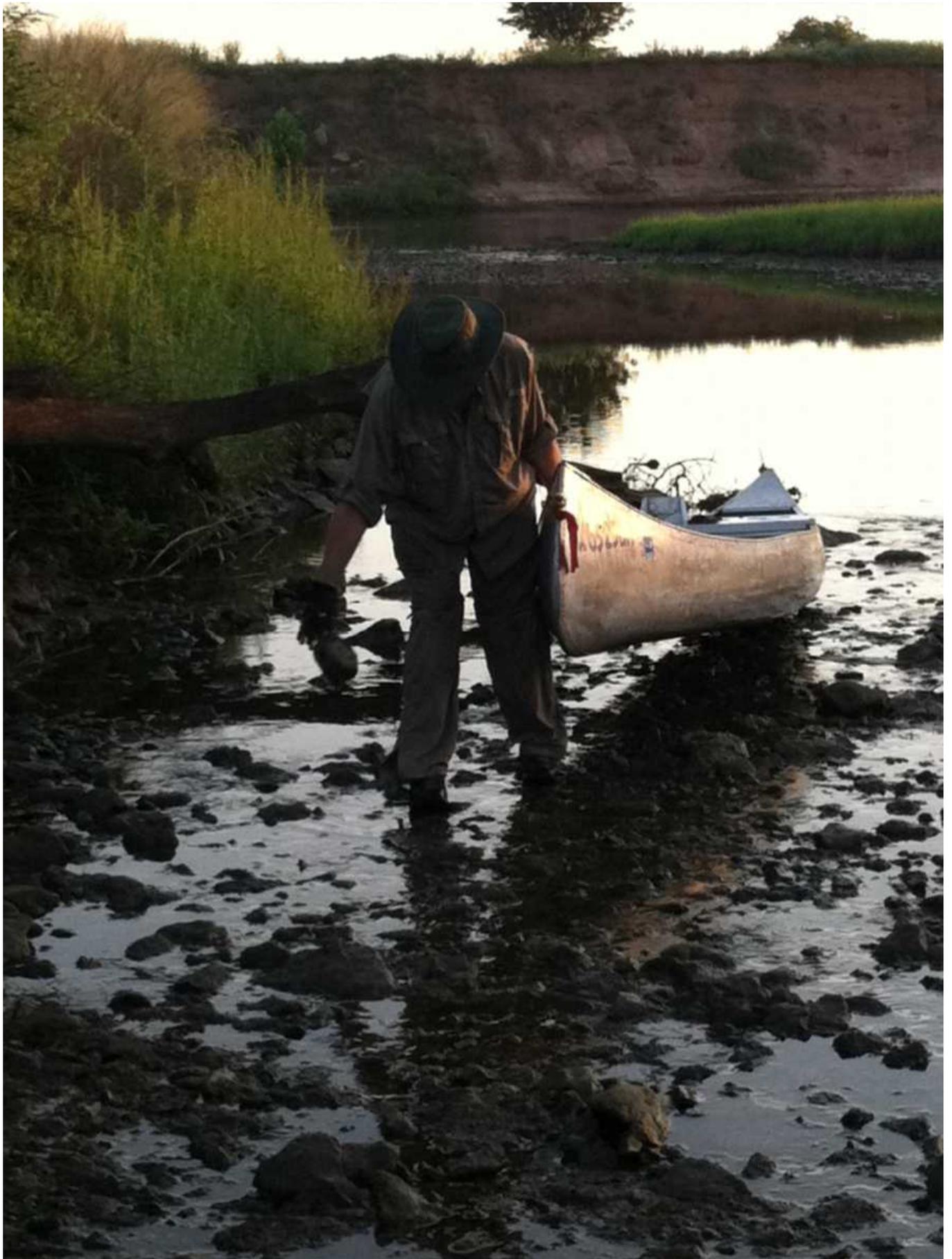
FIG 16: Brian Evans getting the jump on a fine Duck Creek Formation *Mortonicer* ammonite (Site 605)

But first a little slumber was in order. 105F days meant hot night time climates, so Brian offered to leave the engine running all night as we sacked out in the van. Taking necessary ventilation precautions, we did exactly that, and it was a very good move, leaving us somewhat refreshed when the 4:30 alarm went off and broke 3 hours of sleep. We wolfed down breakfast onsite and were on the water paddling my canoe by 5 a.m., clipping off a mile or two with just a pencil thin beam of light from Brian's headlamp illuminating the way. This early start was a good move as we needed the extra time, our day later culminating in the beams of headlamps.

Once we could see the first streaks of dawn illuminating the stream before us, we fired up the engine, but that was short lived as we ran into an extended stretch of shoaled gravel that would barely float the boat if we got out and waded. Finally we arrived at my tributary of choice, and vestiges of ammonites were peeking above the waterline to greet us.



FIGS 17-18: Taking turns with the grunt work this and next page (Site 605)





FIGS 19-20: Exploring the Fort Worth Limestone and overlying Pleistocene/Holocene gravel deposits this and next page (Site 605)



The author anticipating the promise of a productive new site...

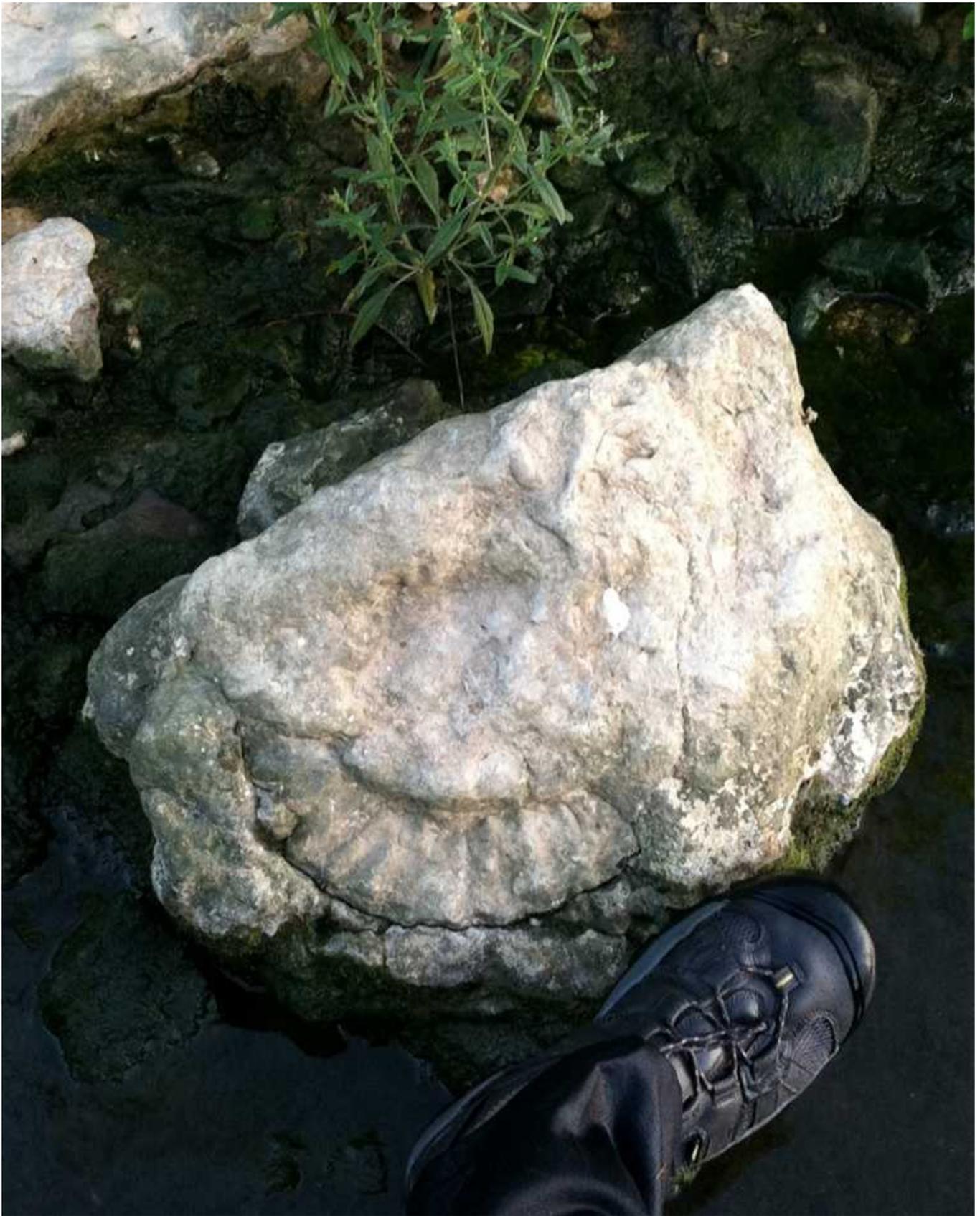


FIG 21: Fort Worth Formation *Mortonicerasa* ammonite standing sentinel....(Site 605)

Marching along the stream bed, we saw the montage of ammonite pieces finally produce a few complete specimens of various species of *Mortoniceras*. Rough and tumbled *Holaster simplex* echinoids finally gave way to some perfect specimens, with my egg sized find being the first keeper. Not to be outdone, Brian raised aloft a perfect 3 inch tan *Macraster* echinoid, a sign of good things to come, then I took a shark tooth in matrix from high on a marly Fort Worth Formation bluff.



FIGS 22-27: The author indulging in Fort Worth Formation *Holaster simplex* echinoids this and next 5 pages

(Site 605)





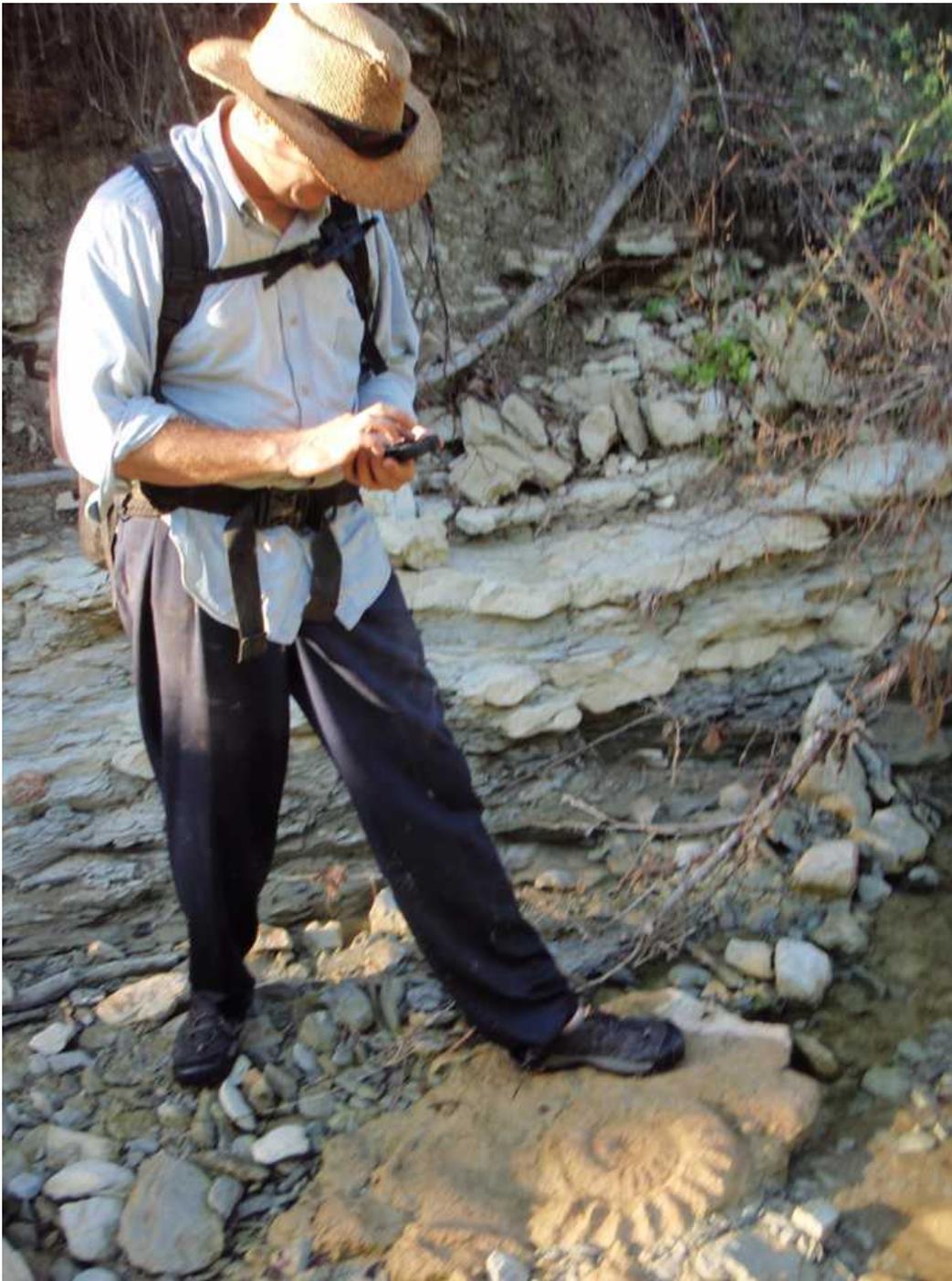








FIG 28: Not to be outdone, Evans produced this impeccable *Macrasterechinoid* in the Fort Worth float (Site 605)



FIGS 29-30: Boobytrapped for self destruction upon extraction, courtesy of Ma Nature, this monster Fort Worth *Mortonicer* never made it home (Site 605)





FIGS 31-39: The author giving proper scrutiny to a bluff of Fort Worth limestone and marl, which produced a *Mortonicer* or two and a shark tooth, this and next 8 pages (Site 605)

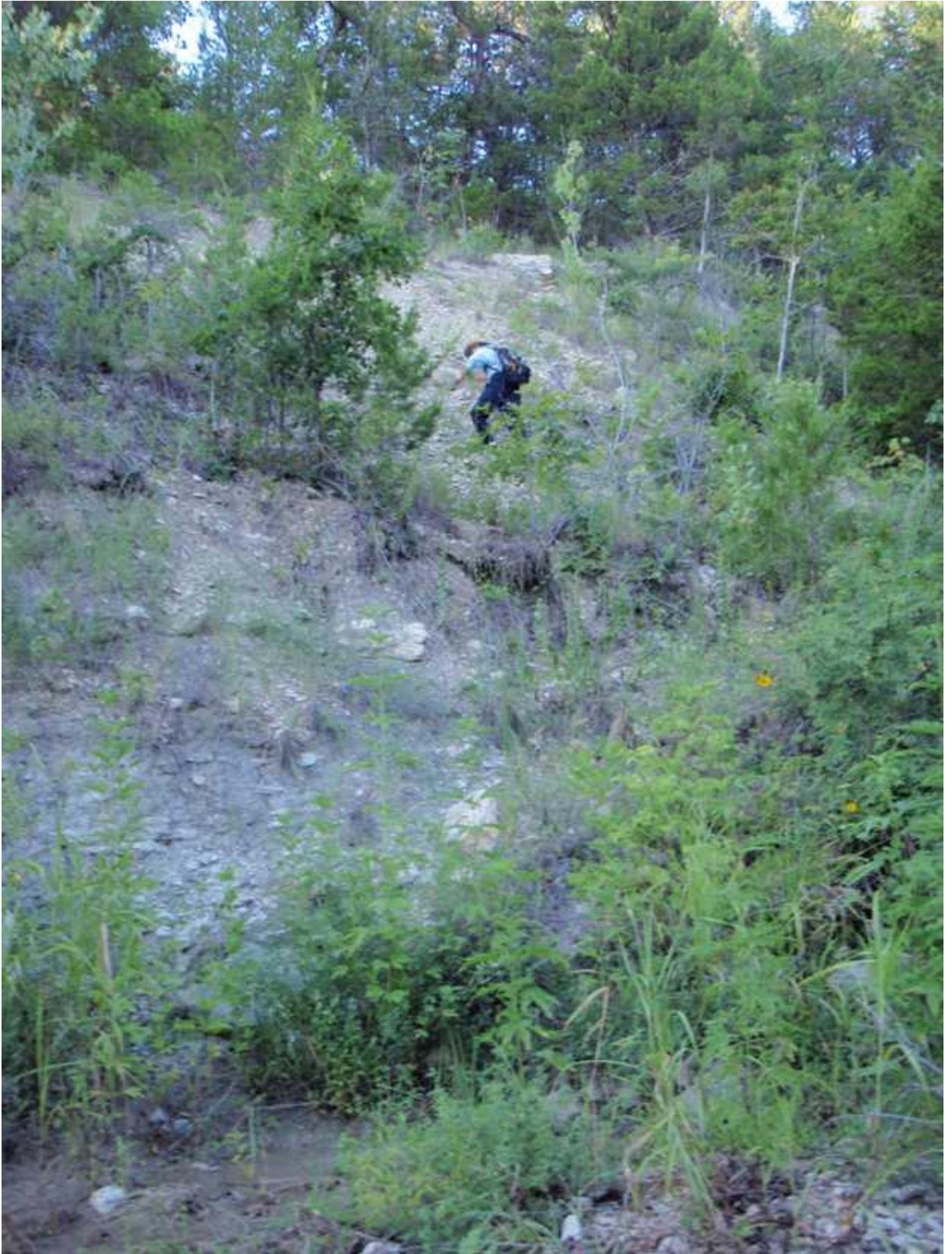




Big cracked Mort left to the elements



"Gravity? We don't need no steengking gravity!"

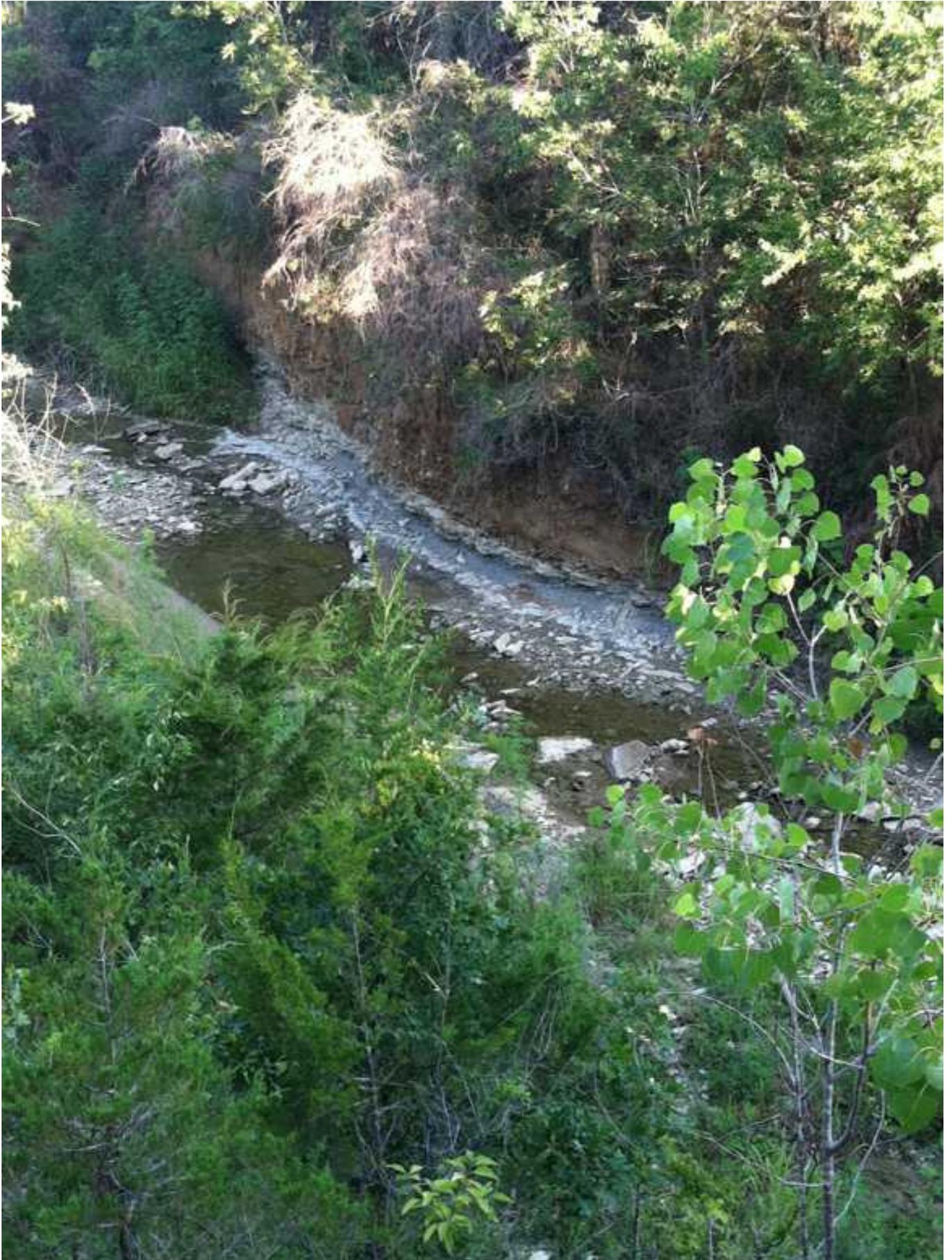








Pastoral views from the author's lofty parapet





FIGS 40-41: Evans did more than just shoot pictures from the creek bottom.....see *Mortonicerammonites* this and next page (Site 605)





FIGS 42-51: Combined take of *Mortonicerasa* ammonites from the Fort Worth Formation this and next 9 pages (Site 605)





















FIGS 52-54: The author with a *Mortoniceras equidistan?* this and next page followed by a *Mortoniceras drakei* (Site 605)



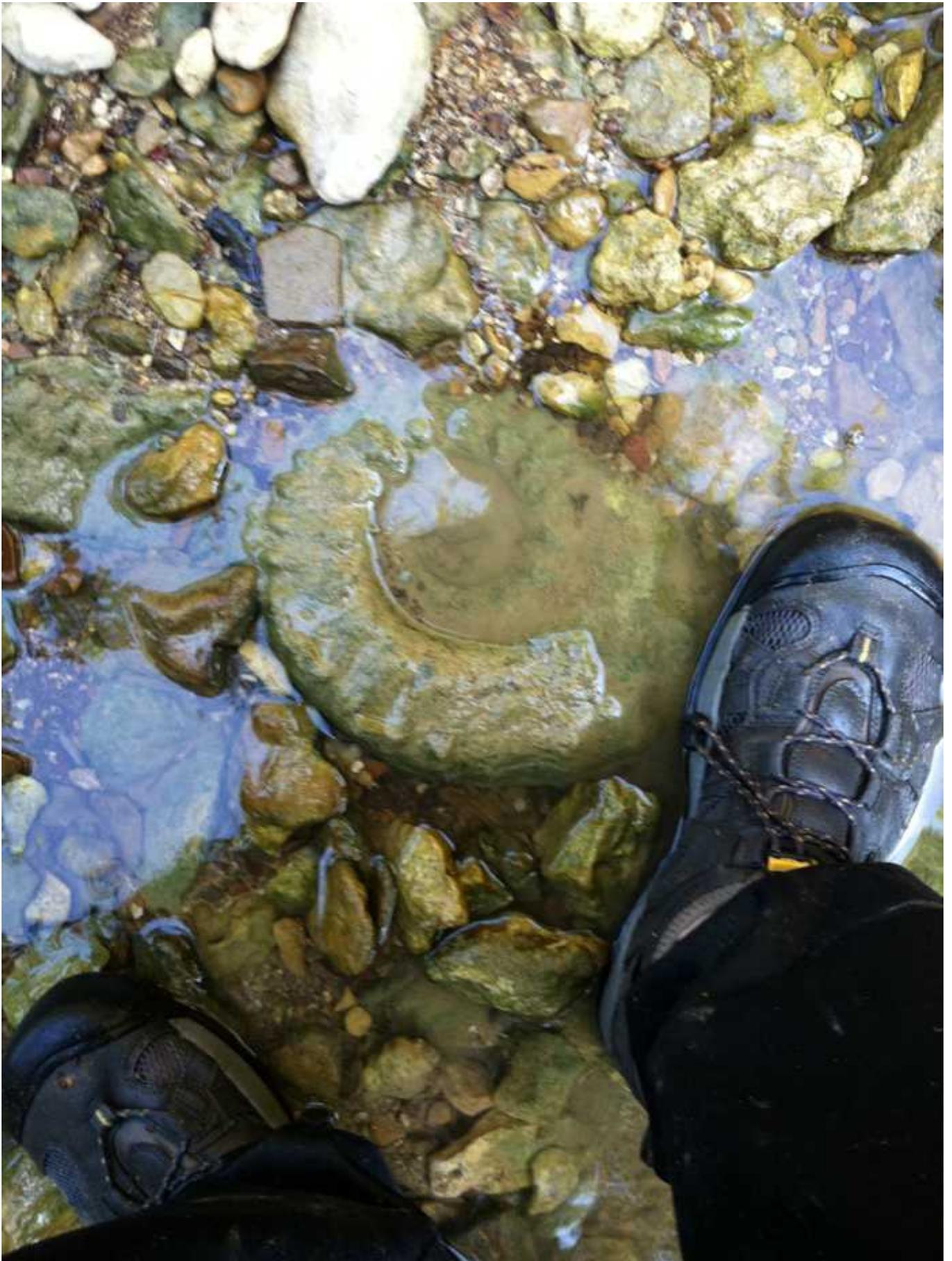


We stomped along for nearly two hours, climbing bluffs, rounding corners, wading, and scaling waterfalls during our forced march. The Fort Worth Formation (102 MYA) was particularly thick with ammonites ranging from 3 inches to 15 inches. We stacked them like poker chips for the return hike.



FIGS 55-58: The Fort Worth giving up Morts for us both around every bend, this and next 3 pages (Site 605)

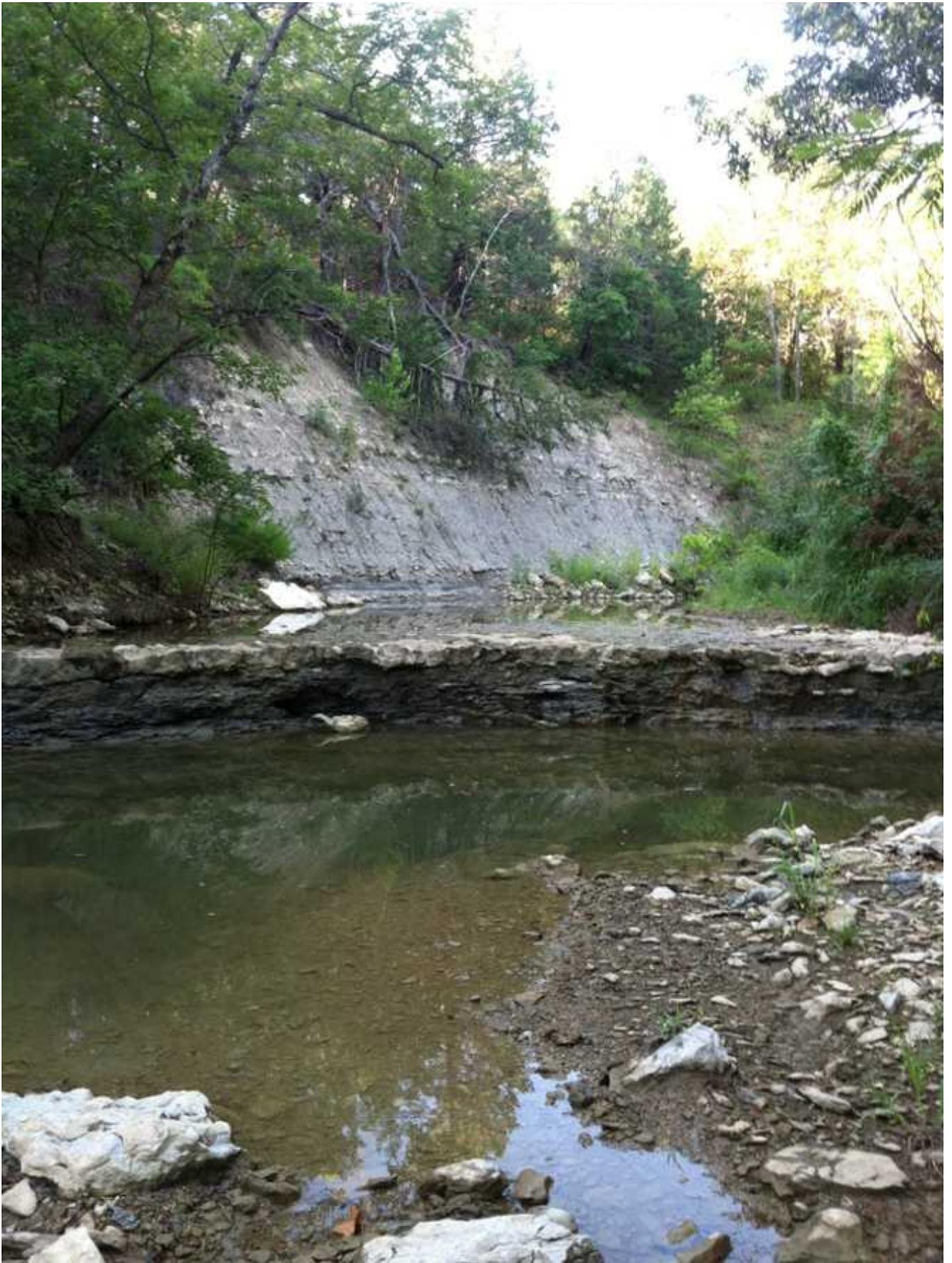


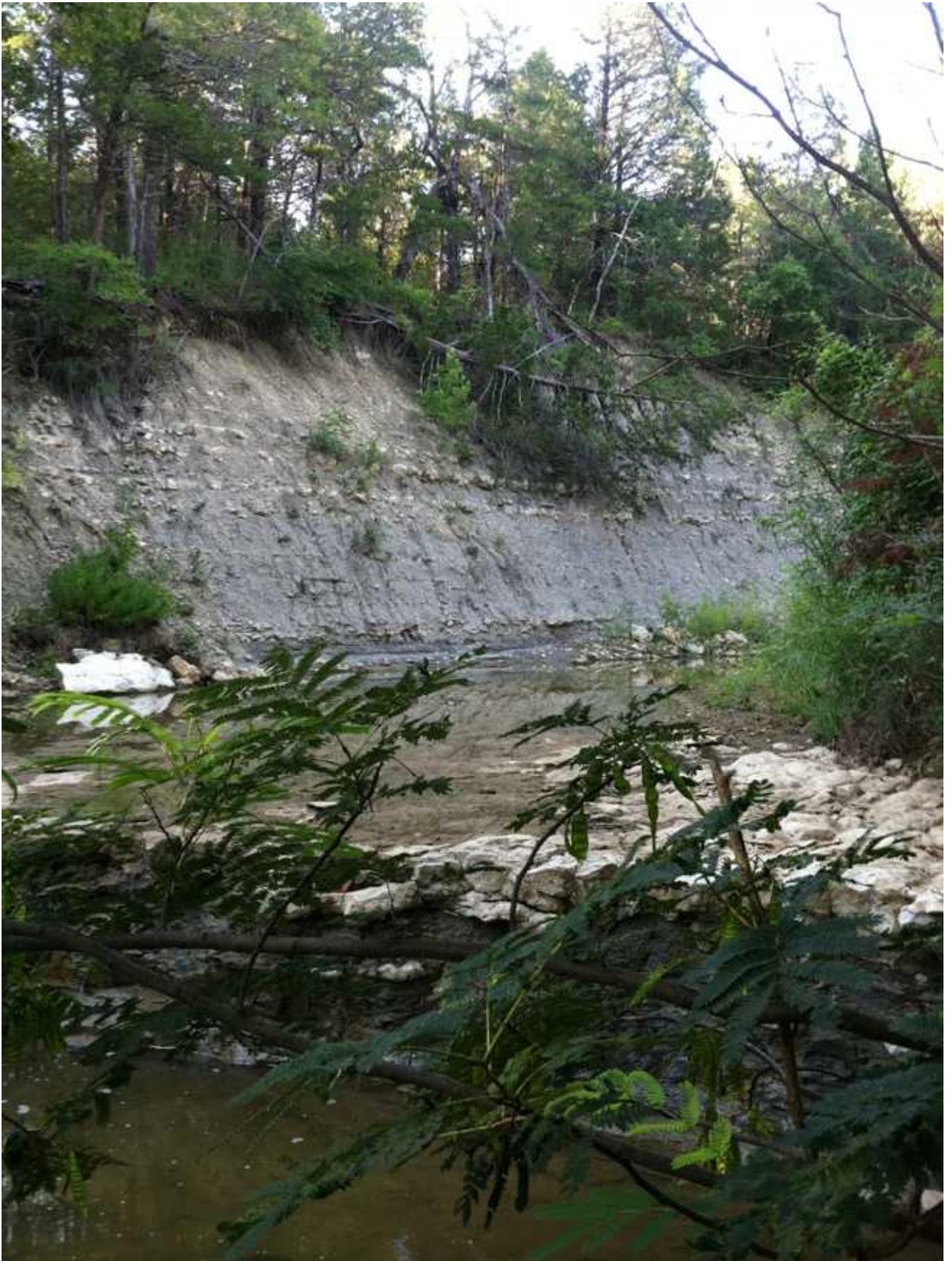






FIGS 59-62: The vistas are a big part of the trophy...good thing we both showed up camera ready, this and next 3 pages (Site 605)



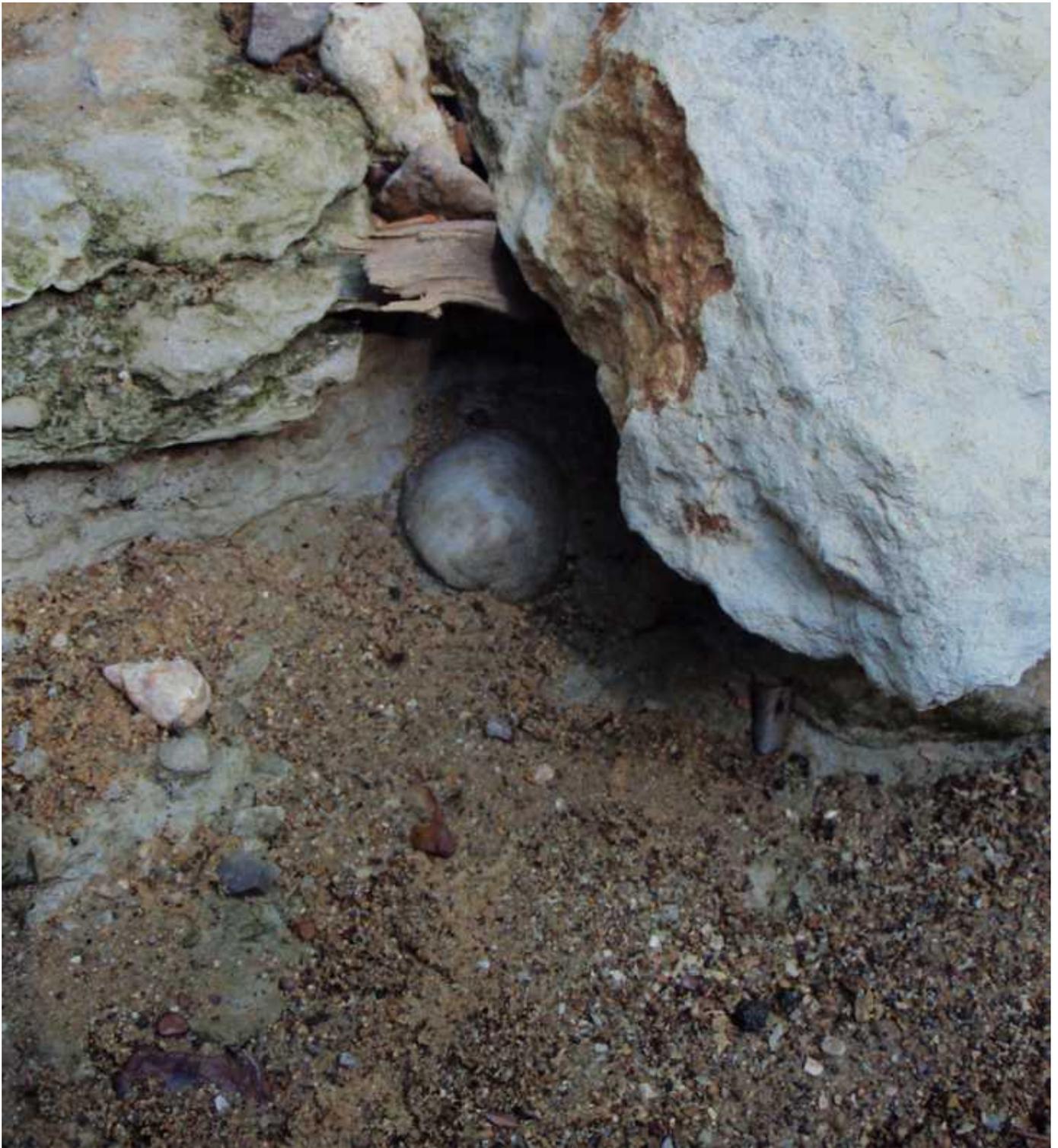




A collapsed area of brown shell hash marked the Denton Formation (101 MYA) where we saw little other than oysters. But the overlying tan limestones and marls of the Weno Formation (100 MYA) held more promise. We continued to lay hands on nice *Mortoniceras* ammonites, then I landed several perfect bedded *Holasterechinoids*. Brian clobbered a big fat *Macraster* jutting out of a marl seam followed by an ultra rare cidarid echinoid, *Phyllacanthus hemigranosus*, rough in condition but complete. I celebrated his victory with him. It was found in a gravel bank in the stream wall, so small and unobtrusive that I'm pretty sure I would have missed it anyway.



FIG 63: The author in his element (Site 605)



FIGS 64-72: Pressing on into the Weno Formation, the *Holasterechnoids* continued to make their presence, this and next 8 pages (Site 605)







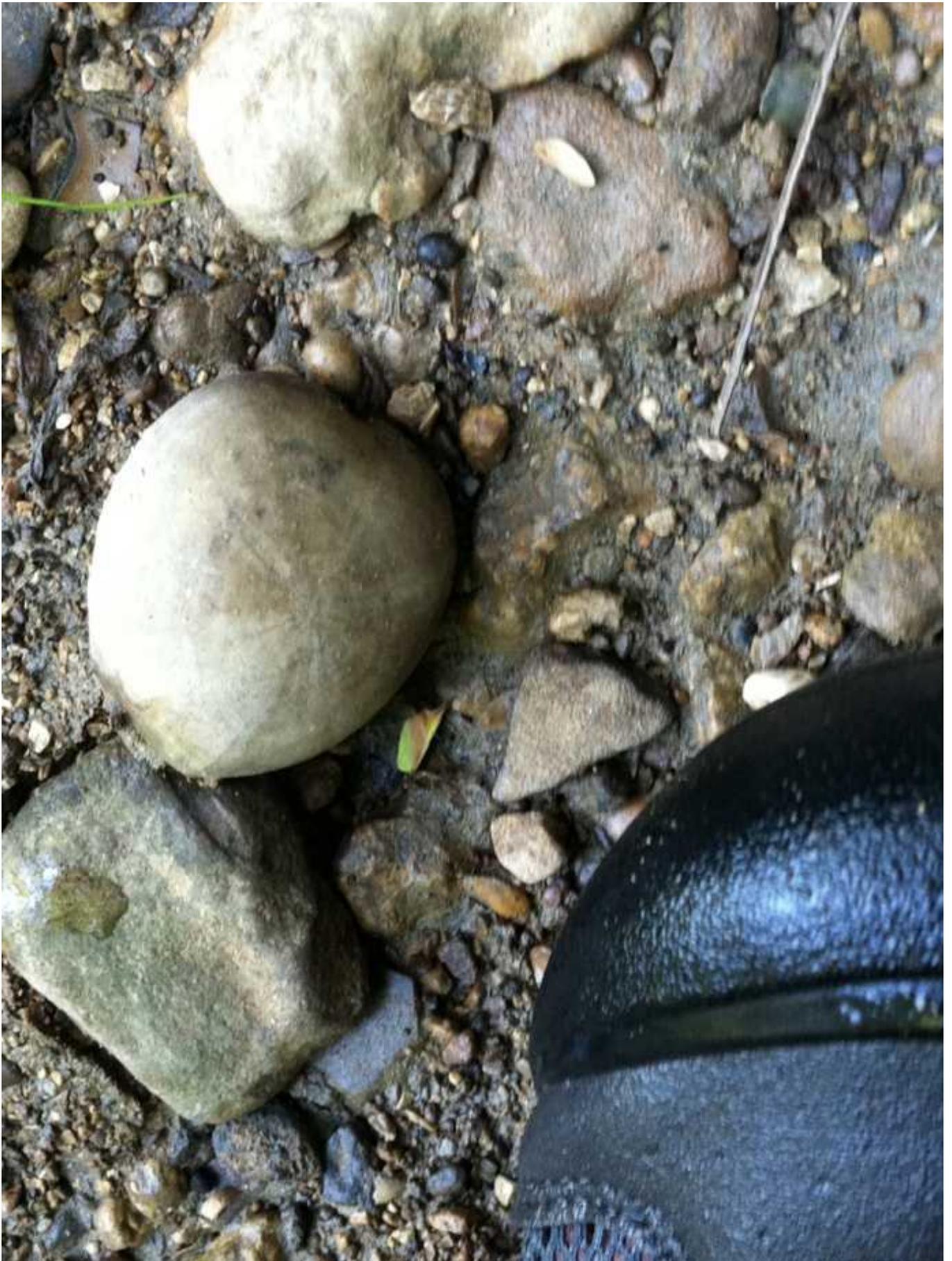












FIG 73: Weno Formation *Macraster* and *Washitaster* rechinoids (Site 605)



FIGS 74-75: Evans still smoking me in the *Macraster* department as we moved up section into the Weno Formation, this and next page (Site 605)





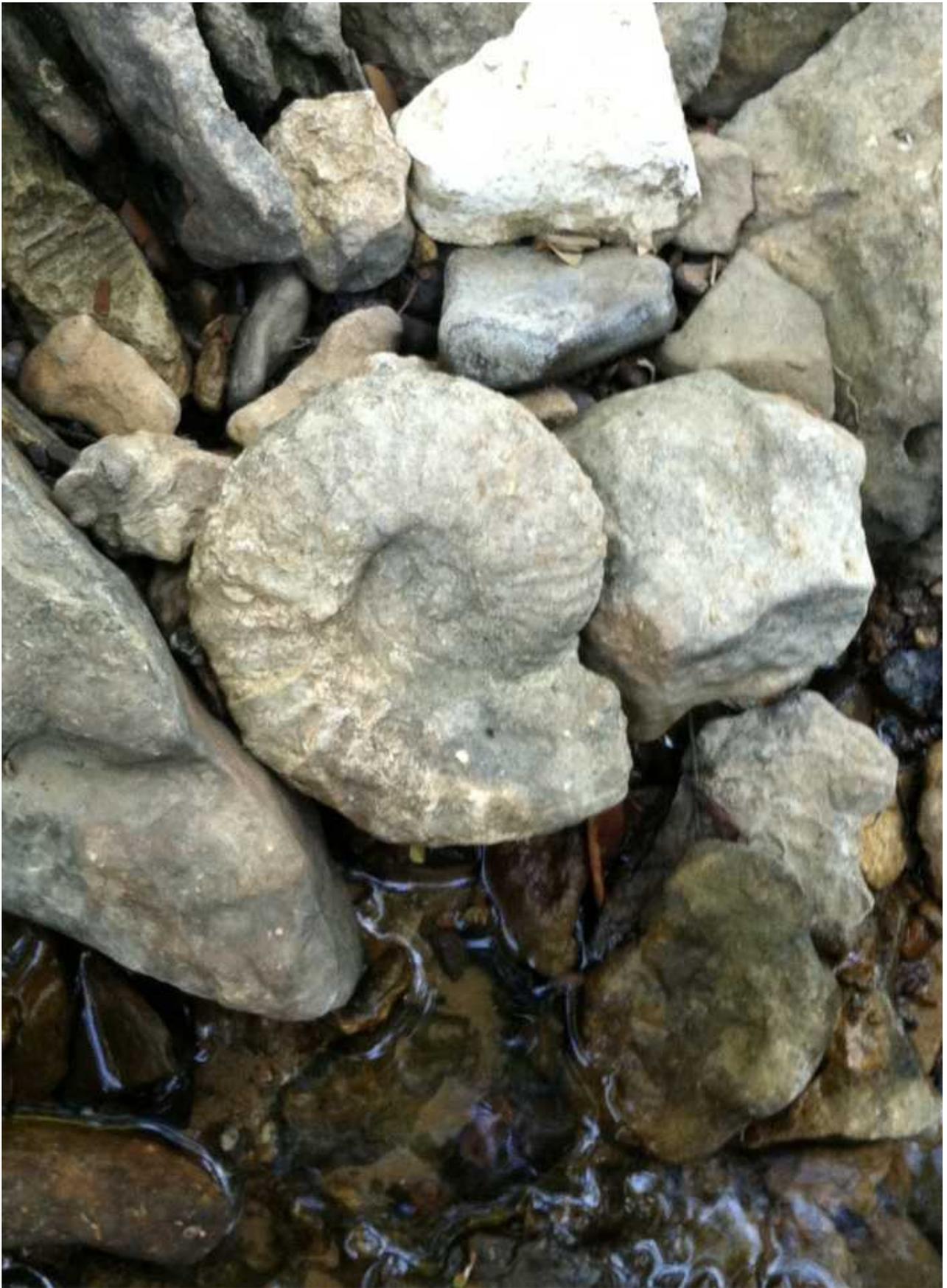
FIGS 76-79: The author kept his eyes on his own side of the creek, and a sharp eyed Brian Evans scored this spectacular and rare Weno Formation echinoid *Phyllacanthus hemigranosus* on his side of the creek, this and next 3 pages (Site 605)







At one point I nudged an oblong object in the light current, only to see a snapping turtle head and neck hook back in attempt to take a hunk out of my chicken leg. Unfortunately I clouded the water too much for a photo. I thought about turtle soup but in the end decided I already had enough to carry, so I let him go about his business in peace.



FIGS 80-85: More Weno *Mortonicer* ammonites this and next 5 pages (Site 605)













FIGS 86-96: A mix of Fort Worth, Denton, and Weno *Mortoniceras* ammonites this and next 10 pages (Site 605)

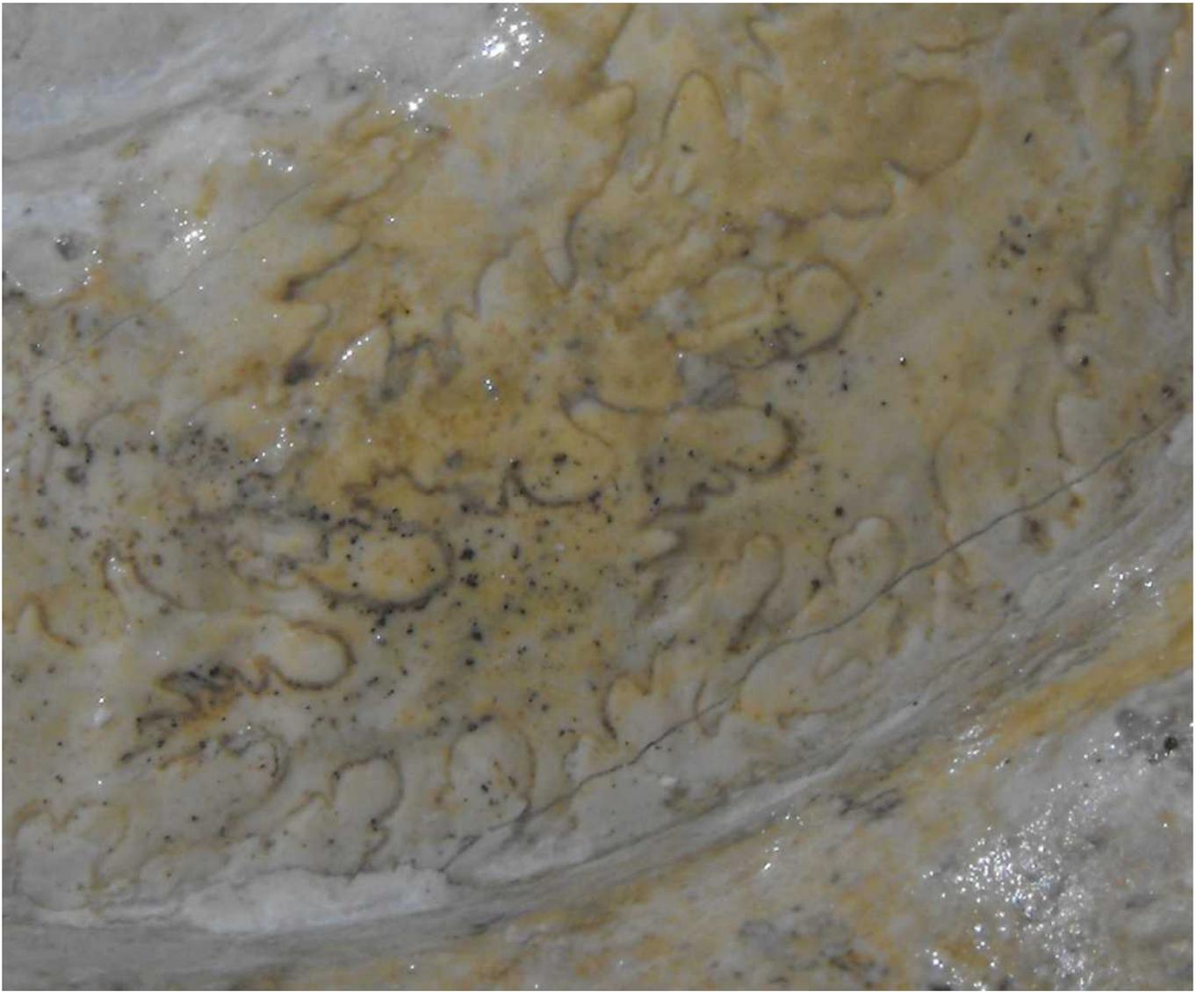




















SUTURES!



FIGS 97-98: From the Weno Formation a *Paracymatoceras texanum* nautiloid this page and unidentified gastropod next page (Site 605)

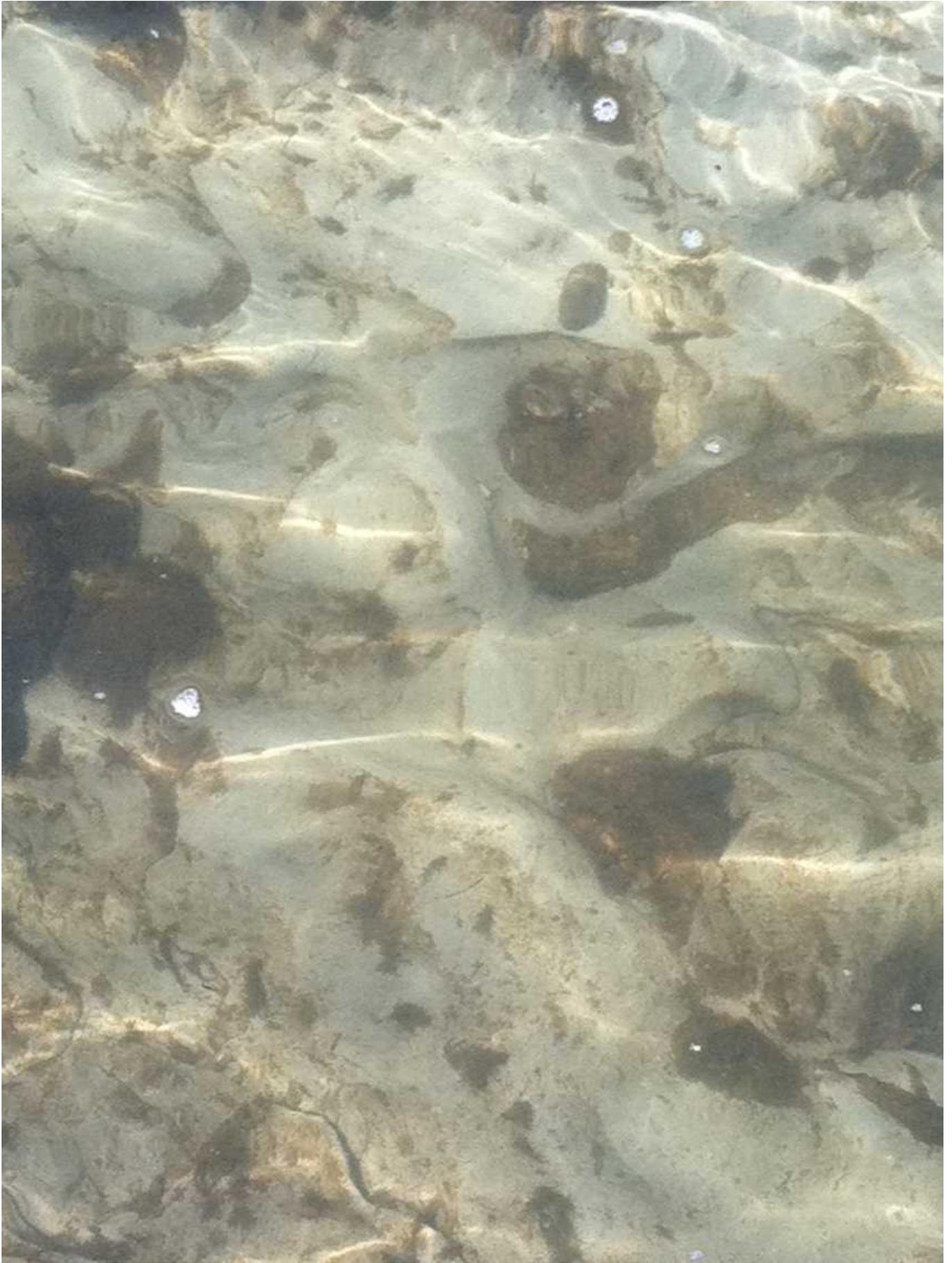


The hike back to the boat was grueling as the weight mounted in my backpack. The few giant *Mortonicerias* ammonites that shattered upon attempts to free them didn't hurt my feelings. My back and hips were already aching, and when I finally set my pack down it felt as if someone were pushing my shoulders forward as I walked. But I knew the work was far from over.

We were able to fire up the motor briefly, then came the long shoal where we had to wade in the current, dragging the boat on the rocks. I had told Brian ahead of time that we were going to do a VERY thorough job today since access would be so difficult that we didn't want to return anytime soon....my prognostication was spot on.



FIGS 99-102: Sharing the burden of returning to port this and next 3 pages (Site 605)







A/C and ice cold Gatorade couldn't have come at a better time. Since Brian drove he was a wreck and needed a nap, but I was doing OK so I had him dump me off at another stream cutting through the Fort Worth and Duck Creek Formations. I slugged another Gatorade and began my high speed stomp.

After about a mile I encountered two limestone and marl bluffs exposing the *Eopachydiscus marcianus* zone low in the Duck Creek Formation (103 MYA). Eos were common finds there, and big ones at that. I focused on some of the smaller Eos and *Mortoniceras equidistans* ammonites, but more so the small *Macraster* echinoids, perfectly preserved in some cases. I also found some pyritized micromorphic ammonites in the soft marl, as well as a shark or fish tooth blade.



FIGS 103-104: Duck Creek Formation exposure this page, pyritized micromorphic ammonites and fish tooth blade found there next page (Site 606)





FIGS 105-107: Duck Creek ammonite *Mortoniceras equidistantis* this and next page (Site 606)







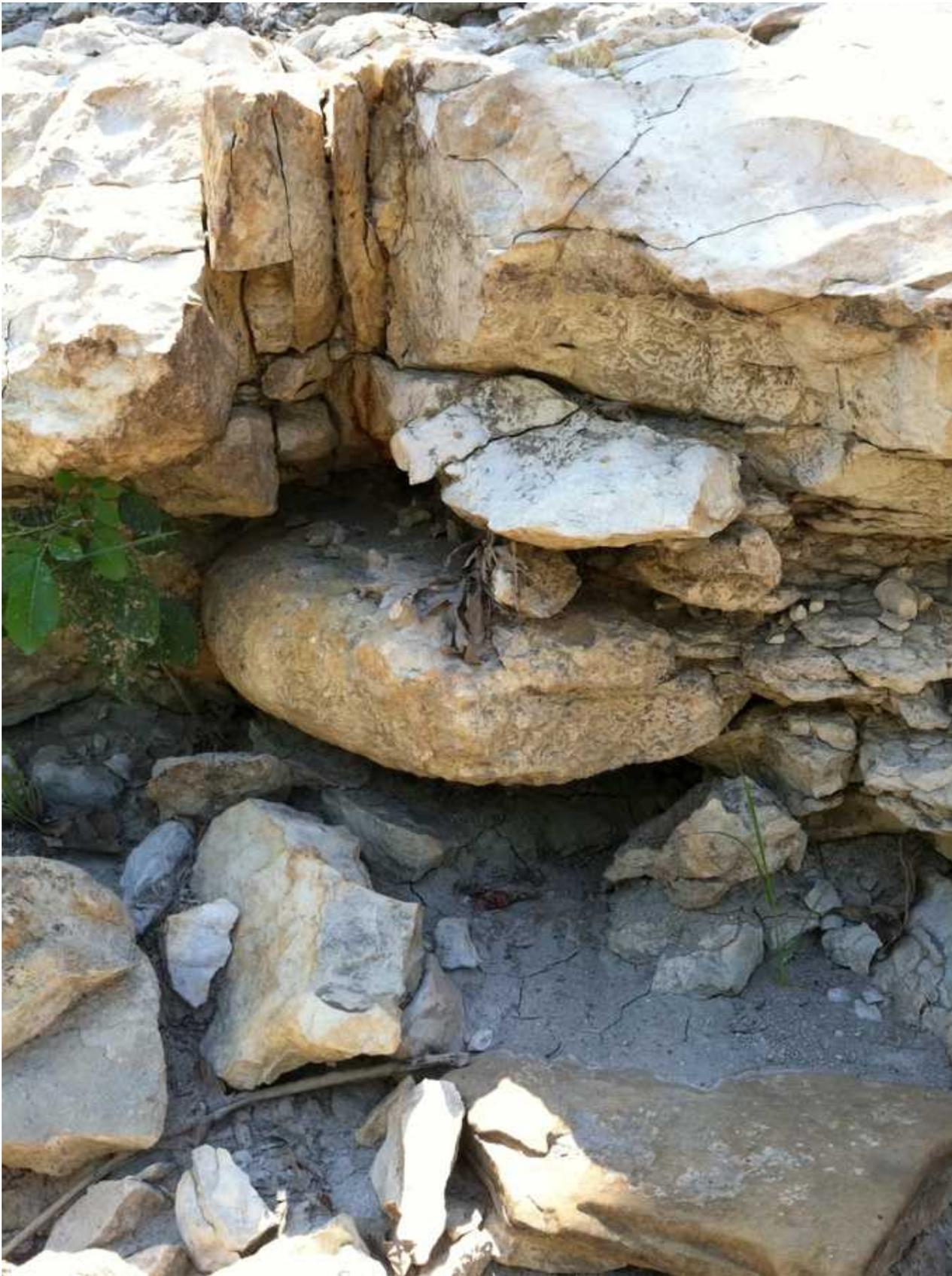
FIGS 108-112: Second Duck Creek exposure this page, *Macrasterochinoids* found there next 4 pages (Site 606)











FIGS 113-118: Duck Creek ammonites *Eopachydiscus marcianus* this and next 5 pages, most left as found (Site 606)



Nice Eo double in the shadows











FIGS 119-121: Duck Creek ammonites *Eopachydiscus marcianus* in situ this page, *Mortoniceras* sp. in situ next page, both as prepped following page (Site 606)







FIGS 122-126: Duck Creek ammonite *Mortoniceras equidistantis* and next (Site 606)











FIGS 127-128: Duck Creek ammonite *Mortoniceras equidistansthis* and next page (Site 606)



My head beginning to throb in 105F climes with no water in my pack, I thumbed my nose at several 50-150 pound Eos and backed out with my 50-60 LB backpack. I was feeling pretty thrashed by the time I made it back to the van and woke Brian up to head to another site.

We were on a pretty productive streak, but afterward another potential site didn't provide a good access point, and another site that looked like a field of Fort Worth Formation rock piles in satellite photos turned out quite humorously to be mulch piles! That cracked us up. You never know until you investigate.

Driving an hour or so let us soak up some much needed A/C. I had researched an easy boat put-in and once again I pulled the rip cord and we covered some miles through beautiful wetlands before ditching the boat and hiking up another tributary where gravel bars gave way to a sizeable bench of what I believe may be Weno Limestone.



FIGS 129-132: Paleo enthusiasts Evans (foreground) and Woehr (background) enjoying sunbeams through the clouds and various waterfowl as we wrung the daylight out of this day afield, this and next 3 pages (Site 607)

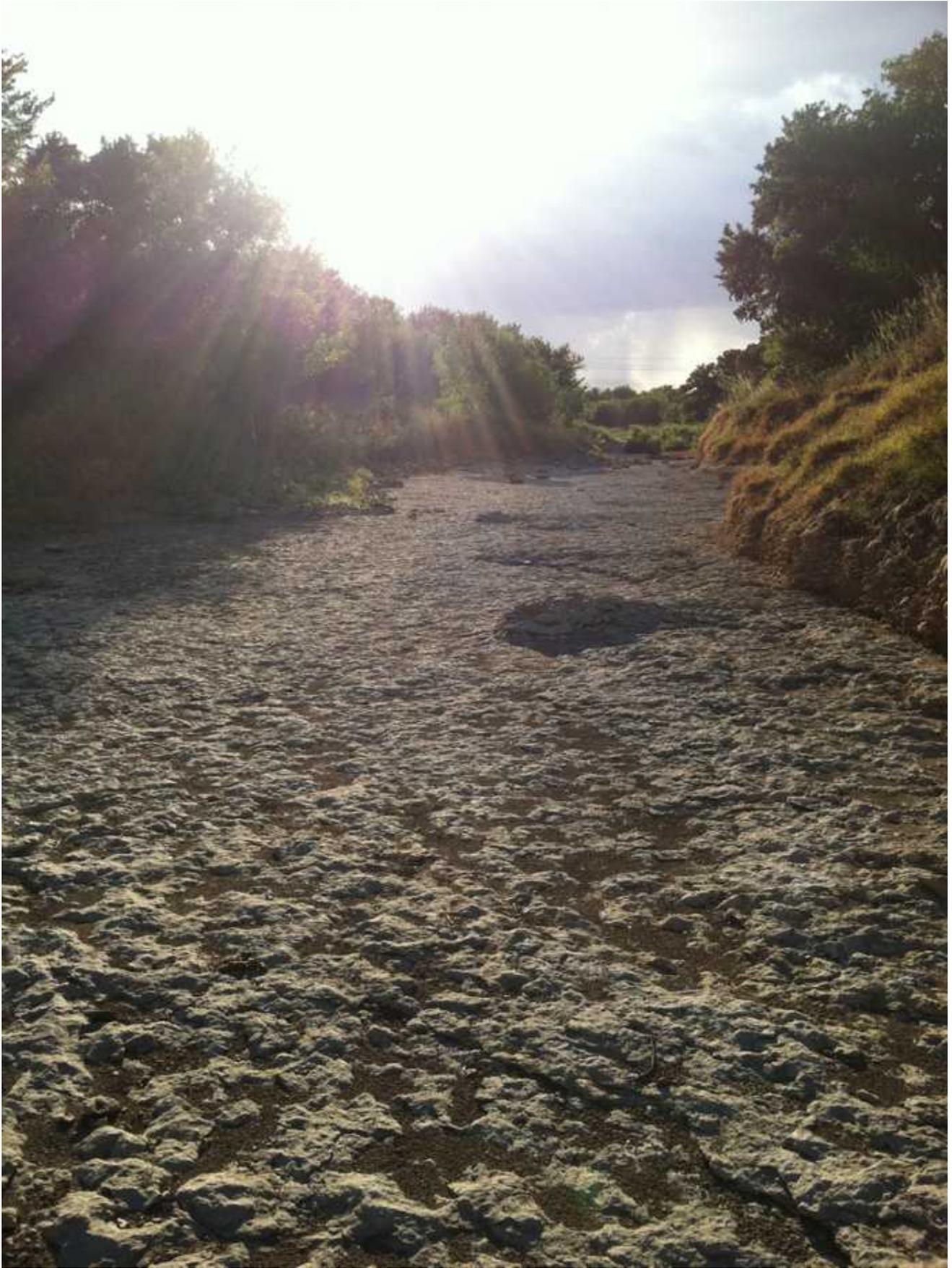






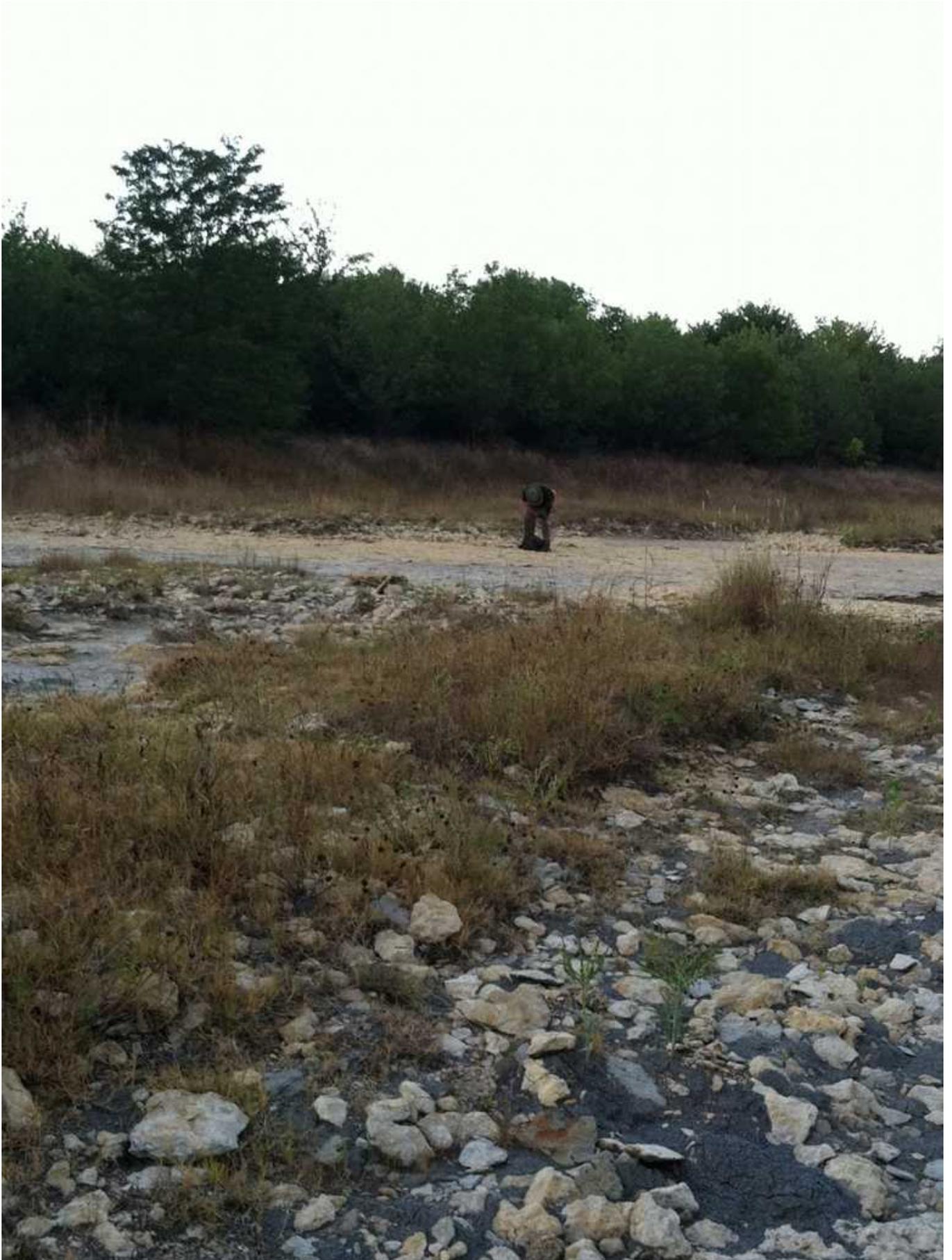
Finds were sparse and I scored first as an *Engonoceras* ammonite jutted a keel out of a low marl seam. On the other side of the creek Brian one upped me AGAIN with a very inflated *Macraster* echinoid....simply beautiful. I took a *Mortonoceras* ammonite from a gravel bar then we both beat out *Cymatoceras* nautiloids before turning back. As I stopped to work on another nautiloid which was too weathered to recover, Brian retraced my steps

and harvested a wonderful and perfect *Coenholectypusechinoid* which I MISSED; it was facing upstream and I couldn't see it on my first pass.



FIGS 133-136: Views of the Weno Limestone this and next 3 pages (Site 607)









FIGS 137-141: Weno ammonite *Engonoceras* this page, following 4 pages showing 2 nautiloids *Paracymatoceras texanum* followed by 2 nautiloids *Cymatoceras hilli* (Site 607)











FIG 142: One more Weno *Mortonicer* ammonite for the road (Site 607)



FIGS 143-144: Brian's Weno Formation *Macrasterochinoid* this and next page (Site 607)



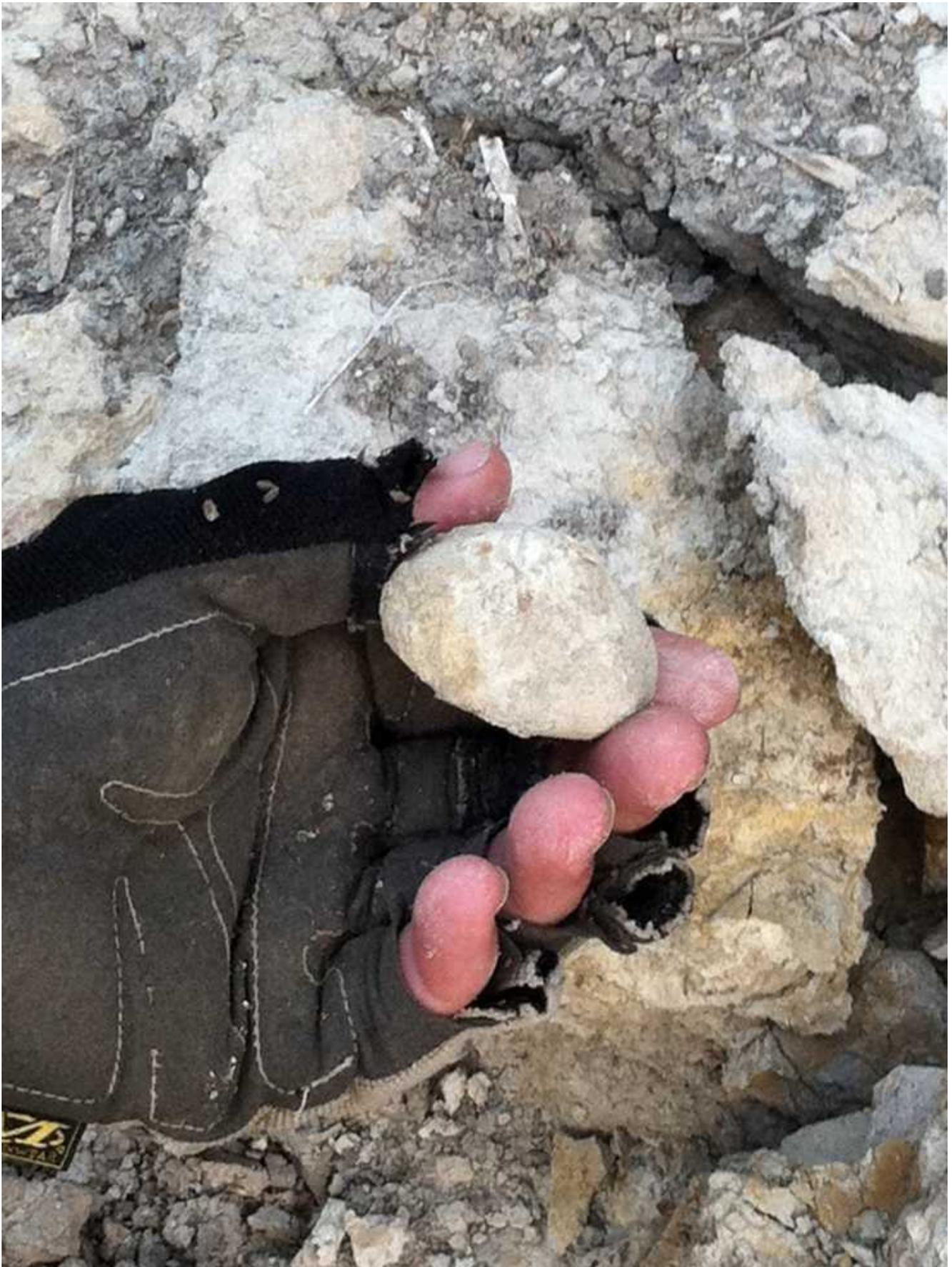


FIG 145: Brian's Weno Formation echinoid *Coenholectypus* sp. (Site 607)



FIG 146: In low light and from a moving boat, Evans got a shot of this serpent lying in wait for us... (Site 607)

We ran full throttle back to the van, doubling back to try to get pictures of a water moccasin coiled on a log. With the boat loading drill behind us, I took us to one last exploratory site as night fell, this time a small exposure of Pawpaw Clay (99 MYA). Our finds were sparse during our quick hunt; I took a small *Enigmaticeras riceae* ammonite while Brian grabbed a larger *Engonoceras serpentinum*. Finding one each with flashlights, we gave up quick and headed to Schlotsky's before embarking on our long drive home.



FIG 147: Quick night hit in the Pawpaw Clay....one *Enigmaticeras riceae* ammonite (Site 608)

Our long tag team drive put us home around 2 a.m., and along the way I let Brian know that he had found the 5 best echinoids of the trip! He was impressed by my huge ammonite take. I felt there would be plenty of fossils for both of us at these new sites I had researched, and I'm quite pleased with my decision to share that potential with Brian. We cemented our friendship with yet another painfully successful trip!



FIGS 148-150: Courtesy of Brian, I was able to screen a 15 pound bulk sample of Miocene gravel from Green Mill Run, NC and pick out these corals and shark teeth



Personal favorites: Two largest teeth from snaggletooth shark *Hemipristis serra*, in between them angel shark tooth *Squatina* sp., pufferfish mouth plate above, dolphin tooth below



Looks like a partial fish mouth plate



FIG 151: Happy July!